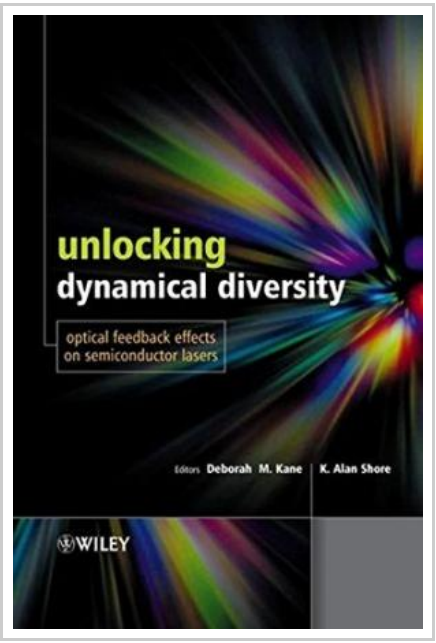

Unlocking Dynamical Diversity: Optical Feedback Effects on Semiconductor Lasers (Hardback)

By D. Kane

John Wiley and Sons Ltd, United Kingdom, 2005. Hardback. Book Condition: New. 248 x 172 mm. Language: English . Brand New Book. Applications of semiconductor lasers with optical feedback systems are driving rapid developments in theoretical and experimental research. The very broad wavelength gain bandwidth of semiconductor lasers combined with frequency filtered, strong optical feedback create the tunable, single frequency laser systems utilised in telecommunications, environmental sensing, measurement and control. Those with weak to moderate optical feedback lead to the chaotic semiconductor lasers of private communication. This resource illustrates the diversity of dynamic laser states and the technological applications thereof, presenting a timely synthesis of current findings, and providing the roadmap for exploiting their future potential. This work provides theory based explanations underpinned by a vast range of experimental studies on optical feedback, including conventional, phase conjugate and frequency filtered feedback in standard, commercial and single stripe semiconductor lasers. It includes the classic Lang Kobayashi equation model, through to more recent theory, with new developments in techniques for solving delay differential equations and bifurcation analysis. It explores developments in self mixing interferometry to produce sub nanometre sensitivity in path length measurements. It reviews tunable single frequency semiconductor lasers and systems...

Reviews

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